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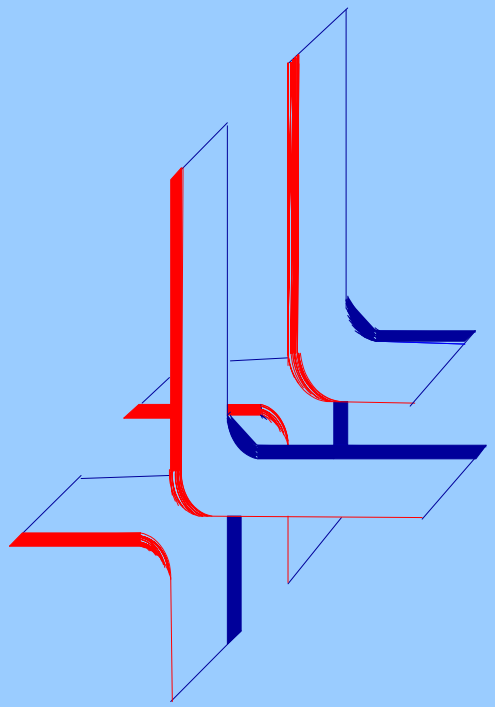

F.R. ALEMAN

& Associates, Inc.
CONSULTING ENGINEERS

About F.R. Aleman & Associates, Inc.

F.R. ALEMAN
& Associates, Inc.
CONSULTING ENGINEERS

- 15 Years in Business
- Florida Based **MBE** Firm
- A Top 500 Hispanic Owned Business Enterprise in the U.S. Since 1998
- 75 Professionals Statewide
- 80% of Current Projects are with DOT *(No Conflicts of Interest)*
- Strict Quality Assurance Measures
- Innovative Cost and Time Savings Ideas
- Leading Edge Technologies & Equipment
- Consistent Excellent Performance Evaluations
- Employer of the Year, "Business Cooperative Education Program" (3 Years, Public School Board)

Frank R. Aleman, P.E.
President

Statewide Office Locations

F.R. ALEMAN
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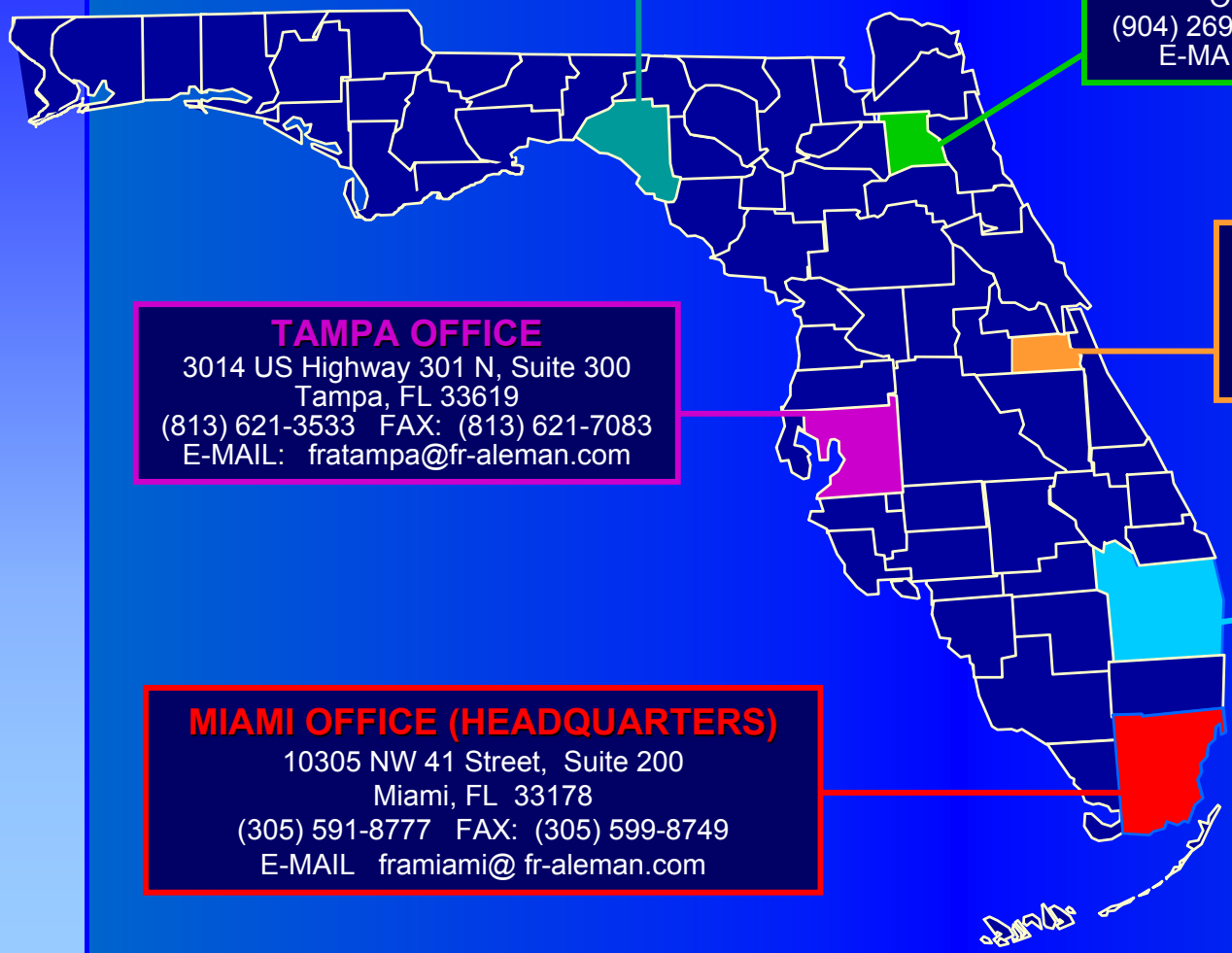

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E-MAIL framiami@ fr-aleman.com

Professional Services

F.R. ALEMAN
& Associates, Inc.
CONSULTING ENGINEERS

- FDOT Qualifications:
  - 2.0 Project Development & Environmental Studies
  - 3.0 Highway Design
    - 3.1 Minor Highway Design
    - 3.2 Major Highway Design
  - 6.0 Traffic Engineering & Operations Studies
    - 6.1 Traffic Engineering Studies
    - 6.2 Traffic Signal Timing
    - 6.3 Intelligent Transportation Systems Analysis Design & Implementation
      - 6.31 Intelligent Transportation Systems Analysis & Design
      - 6.32 Intelligent Transportation Systems Implementation
      - 6.33 Intelligent Transportation Traffic Engineering Systems Communications
      - 6.34 Intelligent Transportation Systems Software Development
  - 7.0 Traffic Operations Design
    - 7.1 Signing, Pavement Marking & Channelization
    - 7.2 Lighting
    - 7.3 Signalization

Professional Services

(cont.)

R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

- FDOT Qualifications:
  - 8.0 Surveying & Mapping
    - 8.2 Design, Right of Way & Construction Surveying
    - 8.4 Right of Way Mapping
    - Subsurface Utility Engineering
  - 10.0 Construction Engineering & Inspection
    - 10.1 Roadway Construction Engineering Inspection
    - 10.2 Major Bridge Construction Engineering Inspection
    - 10.3 Construction Materials Testing
  - 13.0 Planning
    - 13.3 Policy Planning
    - 13.4 Systems Planning
    - 13.5 Subarea/Corridor Planning
    - 13.6 Land Planning
    - 13.7 Transportation Statistics
    - GIS

Statistics

R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

Group 13.7

- Typical Services Performed
  - Traffic Counts
  - Data Collection
  - RCI/HPMS/RHCI
  - SLD Regeneration
  - Basemap Reconciliation
  - TMS Polling, Site Selection, Design & CEI
  - Functional Classification
  - Jurisdictional Roadway Transfers
  - Project Traffic Forecasting

Super Enhanced GIS SLD

Statistics
(cont.)

R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

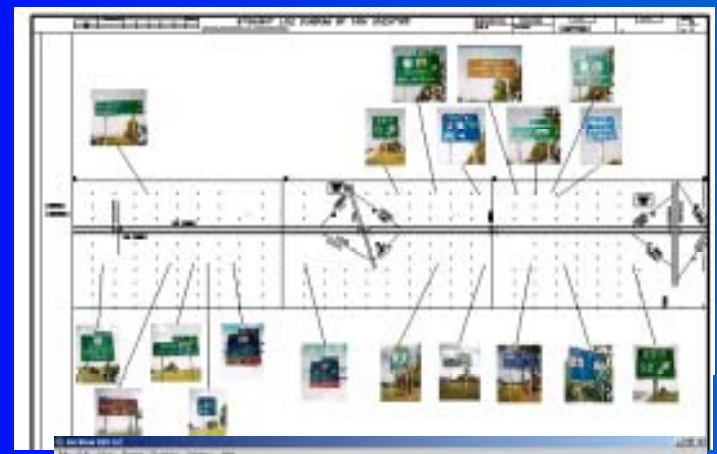
Group 13.7

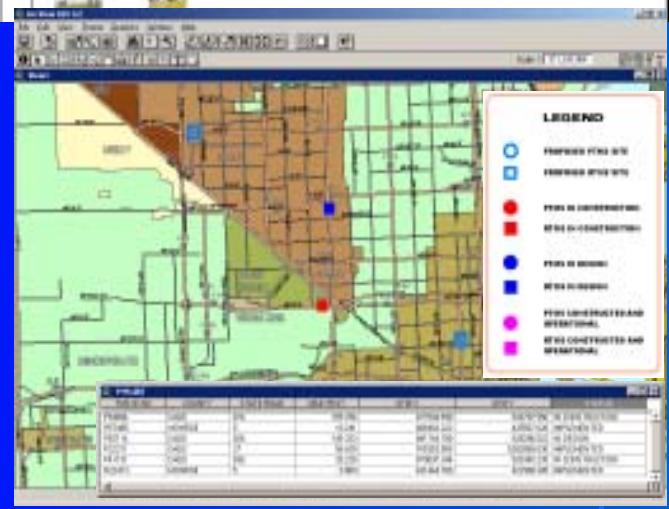
- Relevant Experience
  - FDOT 5 - D/W Signing Inventory & Mapping Consultant
  - FDOT Central Office - Statewide Roadway & Traffic Data Consultant
  - FDOT 4 & 6 - General Planning Consultant
  - FDOT 6 - Portable Traffic & Monitoring Site & Implementation
  - FDOT 6 - D/W Travel Time & Delay Study Consultant
  - FDOT 6 - District General Planning Data Collection Consultant
  - FDOT 4 - D/W Transportation Statistics Consultant
  - FDOT 4 - D/W Data Collection-Special Counts Consultant
  - FDOT 4 - D/W Ramp Inventory & Mapping Consultant
  - FDOT 3 - D/W Traffic Counts & Projections Consultant

Geographic Information Systems

R. ALEMAN
& Associates, Inc.
CONSULTING ENGINEERS

- Typical Services Performed
  - Comprehensive GIS/GPS Support
  - Database Management
  - Data Analysis
  - Research, Evaluation, and Reporting of Existing Procedures
  - Digital Mapping Support
  - Map Production





Geographic Information Systems *(cont.)*

R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

- **Relevant Experience**
  - FDOT 6 – GIS and Mapping Services Consultant
  - FDOT 6 - GIS Project
  - FDOT 6 - District GPC Consultant
  - MDCPW - GIS for Concurrency Mgmt.
  - FDOT 4 – D/W Transportation Statistics Consultant
  - FDOT 4- D/W Ramp Inventory & Mapping Consultant
  - FDOT 5 - D/W Signing Inventory & Mapping Consultant
  - MDCPW - Miami-Dade County Advanced Traffic Management System
  - City of Orlando - Regional Computerized Signal System
  - FDOT CO - Statewide Roadway and Traffic Data Consultant
  - FDOT 6 - D/W Facility Inventory Consultant

Construction Engineering Inspection

R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

Group 10.1, 10.2 & 10.3

- Typical Services Performed
  - Construction Management
  - Material Testing And Inspection
  - Review And Evaluation Of All Submittal Data
  - Provide Certified Inspectors
  - Claim & Delay Prevention
  - Prompt And Effective Coordination
  - Field Data Collection And Daily Record Keeping
  - Monthly, Progress And Final Estimate Preparation
  - Review Of Construction Schedule, Contract Compliance
  - *SUBSURFACE UTILITY ENGINEERING*
- Quality Control Awareness
  - CTQP 2000
  - QC 2000

Construction Engineering Inspection *(cont.)*

F.R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

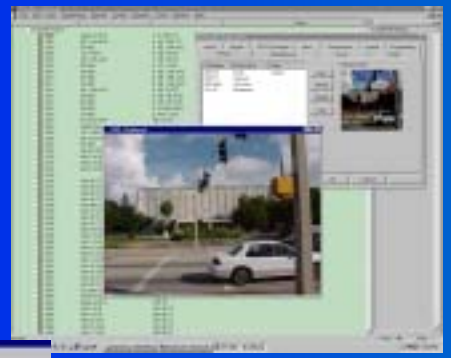
Group 10.1, 10.2 & 10.3

- **Relevant Experience**
  - FDOT 5 - D/W Design & Construction Inspection
  - FDOT 5 - I-75 Ocala Weigh-in-Motion
  - FDOT 5 & 2 - Motorist Aid System
  - City Of Orlando - OCSS Group 2
  - FDOT CO - Statewide Traffic & Roadway Data Consultant
  - FDOT 1, 2 & 6 - D/W CEI
  - FDOT 2 - Staffing Program for Contract Compliance
  - FDOT 4 - City Of Boca Raton Signal System
  - FDOT 6 - Traffic Monitoring Sites & Professional Services
  - FDOT 6 - I-95 / ITS Packages A, B, & C

Intelligent Transportation Systems Analysis Design & Implementation

R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

Group 6.31, 6.32, 6.33 & 6.34



- Typical Services Performed
  - Assist in Structuring an ITS Agency
    - Identify the need
    - Define the region
    - Identify the stakeholders
    - Identify the system champions
  - Gather Necessary Data
    - Determine needs and services
    - Develop Operational concepts
    - Inventory existing systems
    - Define functional requirements
  - Define Interfaces
    - Identify Interconnects
    - Define information flows
  - Implementation (FDOT Adopted NTCIP Specifications)
    - Define Project Sequencing
    - Develop list of agency agreements
    - Identify ITS standards

Intelligent Transportation Systems Analysis Design & Implementation *(cont.)*

R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

Group 6.31, 6.32, 6.33 & 6.34

- **Relevant Experience**
  - FDOT 5 & 2 - Motorist Aid System
  - FDOT 5 & City of Orlando - RCSS ATMS
  - FDOT 5 - Wildwood Weigh-in-Motion Weight Station
  - Orlando East West Expressway Authority Design Build
  - FDOT 2 - Jacksonville ITS Consultant
  - FDOT 2 - Jacksonville Computerized Signal System
  - FDOT 2 - I-75 Weigh-in-Motion
  - FDOT 4 - I-95 Freeway Incident Detection Route
  - FDOT 4 - City of Boca Raton Signal System & Communication
  - FDOT 4 - I-595 Variable Message Sign System
  - FDOT 4 - I-95/595 Master Plan
  - FDOT 6 - I-95 Intelligent Corridor System
  - Miami-Dade County - Advanced Traffic Management System
  - Miami-Dade County - Automated People Mover & Metrorail Communication

Things to Consider

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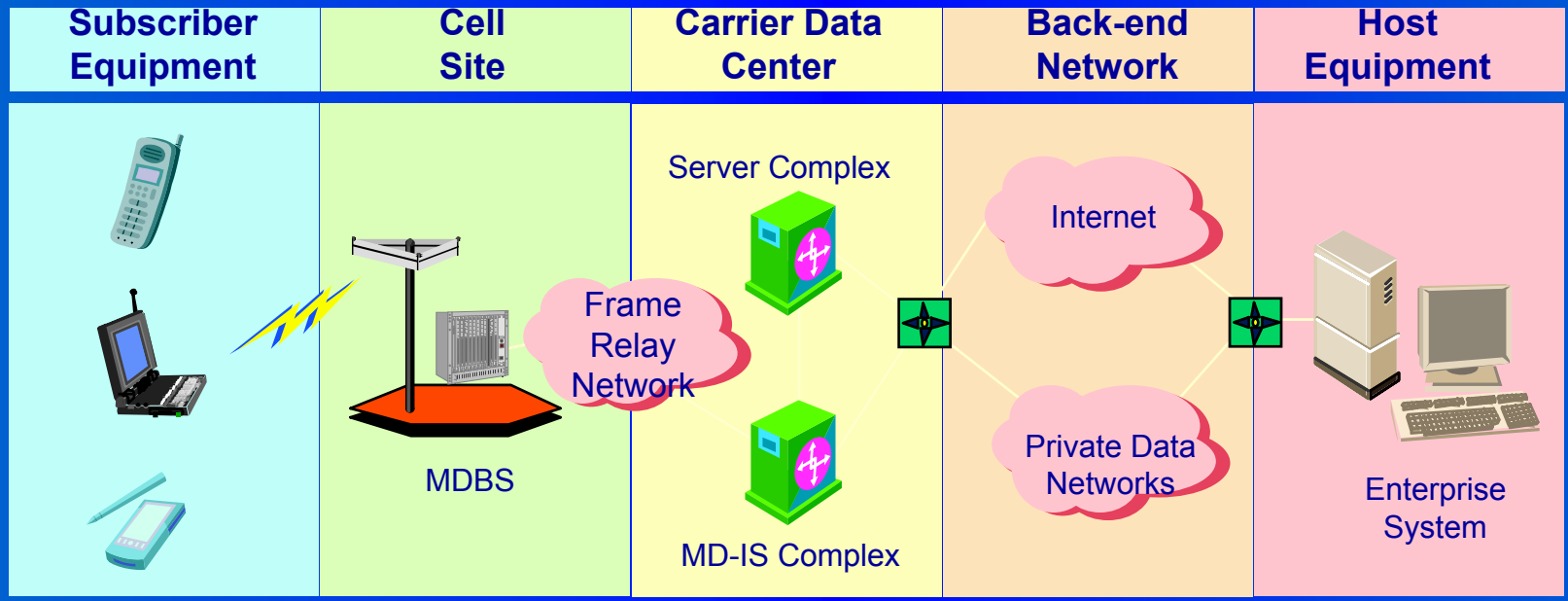
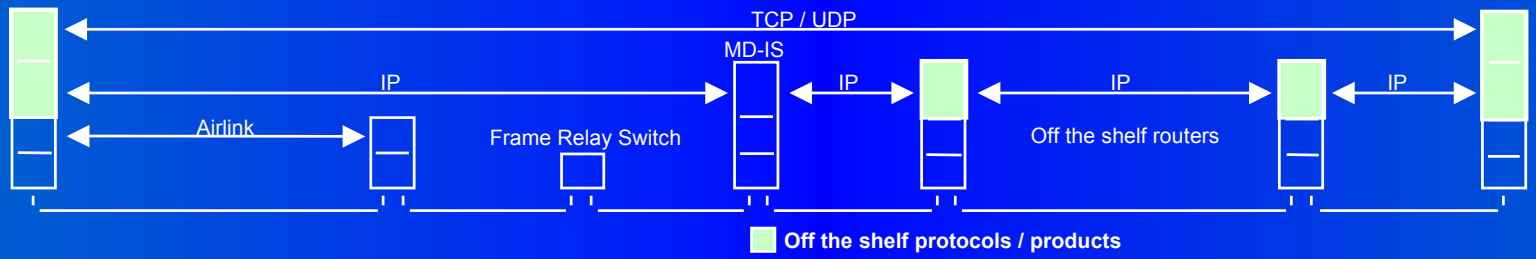
- Wireless Communications
  - Service Providers
    - CDPD – Cellular Digital Packet Data
      - ✓ Data Communication Via Cellular Networks
      - ✓ For Mobile And Telemetry Applications
    - GPRS - Gated Packet Radio Service
      - ✓ Requires GSM (Global System for Mobile Communications) Technology
      - ✓ Being installed nationwide - not available everywhere
- Unlicensed frequency band – Urban Areas
  - LAN network technology - Ethernet
  - 2.4 Ghz or 5.8 Ghz channel implementations

CDPD/GPRS Data Network Service Provider Architecture

R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS





Things to Consider

(cont.)

F.R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

- Incident Detection
  - Additional software component to Classifier or use ITS product 2070
  - Video image when incident detected
- Data Collection
  - Volume occupancy data from existing ATMS controlling state roads via NTCIP
- Standardization of Portable Stations
  - Communication format – NTCIP ?
- Detector Types
  - Evaluate existing technology vs. new
    - Classification – Fiberoptic – Piezo - Loops
    - Data Collection Requires GSM (Global System for Mobile Communications) Technology
      - ✓ Loops
      - ✓ Passive Infrared

Things to Consider

(cont.)

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- Detector Types – *cont.*
  - Data Collection
    - Active Infrared
    - Passive Magnetic
    - Radar
    - Doppler Microwave
    - Pulse Ultrasonic
    - Passive acoustic
    - Video
- Guidestar Study
  - Passive infrared – Good potential – traffic detection both intersection & freeway
  - Active infrared – Good potential – vehicle detection – only tested at freeway
  - Passive Magnetic – Potential for accurate detection – difficult installation

Things to Consider

(cont.)

F.R. ALEMAN & Associates, Inc. CONSULTING ENGINEERS

- Guidestar Study – *cont.*
  - Doppler microwave – freeway good potential for detection & speed measurement – poor at intersection
  - Radar – freeway – good potential for detection and measuring speed – side mounted advantage
  - Pulse Ultrasonic – good potential for detection on both freeway & intersections
  - Passive acoustic – moderate potential for detection at intersections & freeways
  - Video – wide variety of traffic data – advantage of sidefire mounting – requires extensive installation
  - Some factors to Consider for Non-intrusive devices
    - Level of expertise required installing & calibrating
    - Number of lanes to detect
    - Mounting options
    - Ease of movement – location to location
    - Capability of remote adjustment
    - Wireless communication to simplify data retrieval
    - Solar power & battery operated devices

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ANY QUESTIONS?